

Mr. Davis

Solution Key

$$\begin{aligned} 15) \sqrt{36x^2y^3} &= 6|x|\sqrt{y^2y} \\ &= 6|xy|\sqrt{y} \end{aligned}$$

$$\begin{aligned} 16) \sqrt{384x^4y^3} &= \sqrt{64 \cdot 3x^4y^2y} \\ &= 8x^2|y|\sqrt{3y} \end{aligned}$$

$$\begin{aligned} 17) 7\sqrt{96m^3} &= 7\sqrt{16 \cdot 6m^2m} \\ &= 7 \cdot 4|m|\sqrt{6m} \\ &= 28|m|\sqrt{6m} \end{aligned}$$

$$\begin{aligned} 18) 6\sqrt{72x^2} &= 6\sqrt{36 \cdot 2x^2} \\ &= 6 \cdot 6|x|\sqrt{2} = 36|x|\sqrt{2} \end{aligned}$$

$$\begin{aligned} 19) -6\sqrt{150r} &= -6\sqrt{25 \cdot 6r} \\ &= -6 \cdot 5\sqrt{6r} \\ &= -30\sqrt{6r} \end{aligned}$$

$$\begin{aligned} 20) 5\sqrt{80a^2} &= 5\sqrt{16 \cdot 5a^2} \\ &= 5 \cdot 4|a|\sqrt{5} \\ &= 20|a|\sqrt{5} \end{aligned}$$

$$\begin{aligned} 21) 2\sqrt{125v} &= 2\sqrt{25 \cdot 5v} \\ &= 2 \cdot 5\sqrt{5v} \\ &= 10\sqrt{5v} \end{aligned}$$

$$\begin{aligned} 22) -8\sqrt{24k^3} &= -8\sqrt{4 \cdot 6k^2k} \\ &= -8 \cdot 2|k|\sqrt{6k} \\ &= -16|k|\sqrt{6k} \end{aligned}$$

$$\begin{aligned} 23) -4\sqrt{192x} &= -4\sqrt{64 \cdot 3x} \\ &= -4 \cdot 8\sqrt{3x} \\ &= -32\sqrt{3x} \end{aligned}$$

$$\begin{aligned} 24) 2\sqrt{8p^2q^3r} &= 2\sqrt{4 \cdot 2p^2q^2q} \\ &= 2 \cdot 2|pq|\sqrt{2q} \\ &= 4|pq|\sqrt{2q} \end{aligned}$$

$$\begin{aligned} 25) -4\sqrt{216x^2y^2z} &= -4\sqrt{36 \cdot 6x^2y^2z} \\ &= -4 \cdot 6|xy|\sqrt{6z} \\ &= -24|xy|\sqrt{6z} \end{aligned}$$

$$\begin{aligned} 26) -3\sqrt{24a^4b^2c^3} &= -3\sqrt{4 \cdot 6a^4b^2c^2c} \\ &= -3 \cdot 2a^2|bc|\sqrt{6c} \end{aligned}$$

$$\begin{aligned} 27) 3\sqrt{16x^4y^4z} &= 3 \cdot 4x^2y^2\sqrt{z} \\ &= 12x^2y^2\sqrt{z} \end{aligned}$$

$$\begin{aligned} 28) -2\sqrt{48a^3b^4c^2} &= -2\sqrt{16 \cdot 3a^2 \cdot ab^4c^2} \\ &= -2 \cdot 4|ac|b^2\sqrt{3a} \\ &= -8|ac|b^2\sqrt{3a} \end{aligned}$$

$$\begin{aligned} 29) 6\sqrt{75mp^2q^3} &= 6\sqrt{25 \cdot 3p^2q^2q} \\ &= 6 \cdot 5|pq|\sqrt{3q} \\ &= 30|pq|\sqrt{3q} \end{aligned}$$

$$\begin{aligned} 30) 4\sqrt{36x^2y^3z^4} &= 4\sqrt{36x^2y^2 \cdot yz^4} \\ &= 4 \cdot 6|xy|z^2\sqrt{y} \\ &= 24|xy|z^2\sqrt{y} \end{aligned}$$